

REMARKS

Claims 11 and 12 are allowed.

Claims 1-10 stand rejected as unpatentable over U.S. Patent No. 5,502,009 (Lin) in view of Japanese Patent Document No. 40813025 (Sugahara).

The Office action acknowledges that the Lin patent does not disclose (i) removing the oxide film and oxide resistance film above the second formation area and (ii) forming a second oxide film on the second formation area, as recited in independent claim 1 and 4. Examples of those processes are illustrated in the pending specification in FIGS. 2C, 3A and 3B, where the oxide film and oxide resistant film on the second formation area are identified, respectively, by reference numerals 3, 4, and the second oxide film is indicated by reference 7.

The Office action alleges that the Sugahara reference discloses those processes in figures 1D and 1E. The Office action also alleges that there would have been a motivation to replace the oxide layer 23 in the second active region 21 in FIG. 2D of the Lin patent because that oxide layer is contaminated by wet etching.

Applicant respectfully disagrees with the conclusion of obviousness. In addition to the remarks in applicant's reply to the previous Office action, applicant submits the following additional remarks.

The Lin patent relates to a method for fabricating gate oxide layers of different thicknesses. The Background section of the Lin patent explains that a problem to be addressed relates to contamination of oxide layers during removal of photoresist layer:

[I]n the conventional method, it is necessary that photoresist layer 100 be removed prior to the oxidation process for growing first gate oxide layer 14 and second oxide layer 15. As a result, during the removal process underlying oxide layer 13 is subject to contamination. For example, the method employed in removing the photoresist layer makes use of a chemical solution and even more oxygen plasma for eradicating it exactly. During this aspect of the process, the

oxygen plasma can pollute oxide layer 13. This can result in a deterioration in oxide layer dielectric characteristics and reliability when oxide layer 13 is later incorporated into second gate oxide layer 15.

(Col. 2, lines 8-20) The Lin patent discloses a method (*see* FIGS. 2A-2D) for fabricating gate oxide layers with different thicknesses in a way that apparently avoids those problems. As explained in the Summary section of that patent:

It is therefore an object of the present invention to provide a method for fabricating gate oxide layers of different thicknesses *without having the gate oxide layers suffer from oxygen plasma contamination when the photoresist layer is removed.*

(Col. 2, lines 27-31) (Emphasis added) Therefore, according to the Lin patent, the process illustrated by FIGS. 2A-2D results in oxide layers of different thicknesses without contamination by the photoresist layer. There would be no motivation to remove and re-grow one of the oxides 23, 26 (FIG. 2D) as a result of any contamination from photoresist, because the process used to grow those oxides already avoids that problem.

The Sugahara reference addresses a problem similar to that addressed by the Lin patent (*i.e.*, how to form gate oxides of different thicknesses while avoiding contamination by photoresist). The Sugahara reference, however, accomplishes that goal in a very different way. There would have been absolutely no reason to incorporate into the process of the Lin patent the additional steps illustrated by figures 2d and 2e of the Sugahara reference. The contrary conclusion in the Office action would result in the unnecessary performance of fabrication steps intended to address the very same problem that has already addressed by the process disclosed in the Lin patent. To add the Sugahara steps of figures 2d and 2e to the process disclosed in the Lin patent would only add unnecessary steps to the overall process of the Lin patent, thereby increasing the time required for fabrication and increasing costs.

This is not a situation where the Office action is suggesting that steps disclosed by one reference (*i.e.*, Sugahara) should replace steps in the process disclosed by another reference (*i.e.*,

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Lin). Instead, the Office action is suggesting, contrary to all logic, that additional steps should be added to a process that has already accomplished the same goal that the additional steps are intended to accomplish.

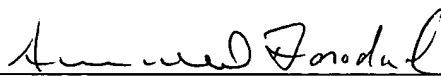
In view of the foregoing remarks, as well as applicant's remarks in the reply to the previous action, applicant respectfully requests reconsideration of the rejection of claims 1-10. Because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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Samuel Borodach
Reg. No. 38,388

Fish & Richardson P.C.
Citigroup Center
52nd Floor
153 East 53rd Street
New York, New York 10022-4611
Telephone: (212) 765-5070
Facsimile: (212) 258-2291